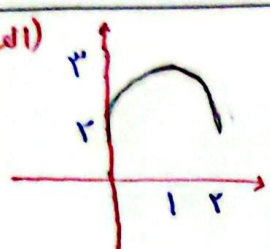
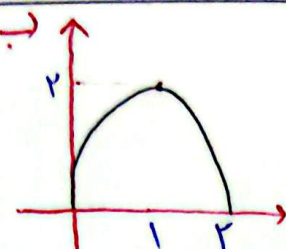
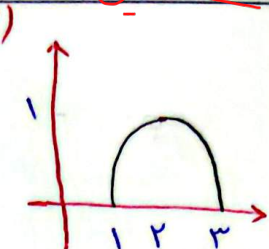
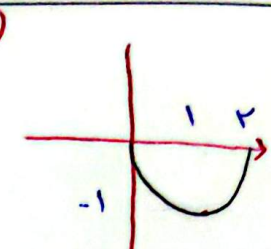
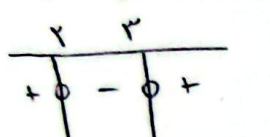
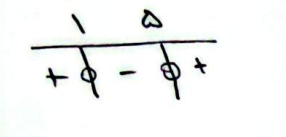
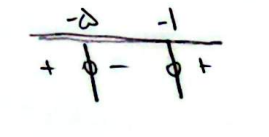
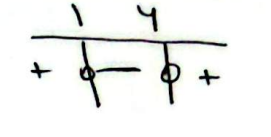
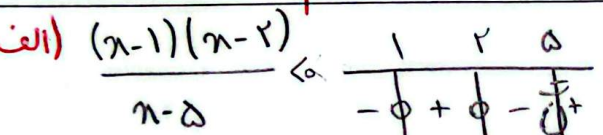
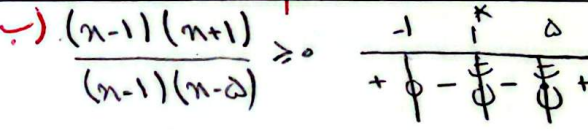
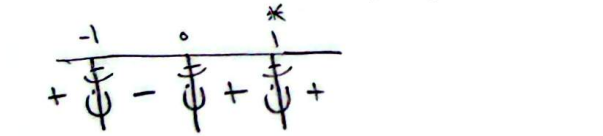
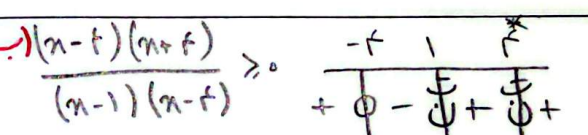


هفته آندین

|                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                          |                                                                                                                                                                                         |                                                                                                                                                                                                             |   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| <p>الف) </p>                                                                                                                                                                    | <p>ب) </p>                                                                                                                                                              | <p>ج) </p>                                                                                            | <p>د) </p>                                                                                                               | 1 |
| <p>الف) <math>(x-2)(x-2) &gt; 0</math></p> <p></p> <p><math>(-\infty, 2) \cup (2, +\infty)</math></p>                                                                           | <p>ب) <math>(x-1)(x-5) &lt; 0</math></p> <p></p> <p><math>1 &lt; x &lt; 5</math><br/><math>\underline{[1, 5]}</math></p>                                                | <p>ج) <math>(x+1)(x+5) \geq 0</math></p> <p></p> <p><math>(-\infty, -5] \cup [-1, +\infty)</math></p> | <p>د) <math>(x-1)(x-4) \leq 0</math></p> <p></p> <p><math>1 \leq x \leq 4</math><br/><math>\underline{[1, 4]}</math></p> | 2 |
| <p>الف) <math>\frac{(x-1)(x-2)}{x-5} &lt; 0</math></p> <p></p> <p><math>(-\infty, 1) \cup (2, 5)</math></p>                                                                    | <p>ب) <math>\frac{(x-1)(x+1)}{(x-1)(x-5)} \geq 0</math></p> <p></p> <p><math>(-\infty, -1] \cup (5, +\infty)</math></p>                                               | 3                                                                                                                                                                                       |                                                                                                                                                                                                             |   |
| <p>الف) <math>\frac{x^2-1}{x^2-x} \geq 0 \Rightarrow \frac{(x-1)(x+1)}{x(x-1)(x+1)} \geq 0</math></p> <p></p> <p><math>(-\infty, -1) \cup (0, 1) \cup (1, +\infty)</math></p> | <p>ب) <math>\frac{(x-4)(x+4)}{(x-1)(x-4)} \geq 0</math></p> <p></p> <p><math>(-\infty, -4] \cup (1, 4) \cup (4, +\infty)</math></p>                                  | 4                                                                                                                                                                                       |                                                                                                                                                                                                             |   |
| <p>الف) <math>4 - \sqrt{2-x} \geq 0 \Rightarrow \sqrt{2-x} \leq 4</math></p> <p><math>\Rightarrow 2-x \leq 16 \Rightarrow x \geq -14</math></p> <p><math>\Rightarrow 2 \geq x \geq -14 = [-14, 2]</math></p>                                                     | <p>ب) <math>\sqrt{x-2} \geq 0 \Rightarrow x-2 \geq 0 \Rightarrow x \geq 2</math></p> <p><math>3 - \sqrt{x-2} \geq 0 \Rightarrow \sqrt{x-2} \leq 3 \Rightarrow x-2 \leq 9 \Rightarrow x \leq 11</math></p> <p><math>2 \leq x \leq 11 = [2, 11]</math></p> | 5                                                                                                                                                                                       |                                                                                                                                                                                                             |   |

|                                                                                                                                                                                                                                              |                                                                                                                                                                                                        |                                                                                                                                   |                                                                                                                                                                  |   |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| الف) $4-2x^2 \geq 0 \Rightarrow 2x^2 \leq 4 \Rightarrow x^2 \leq 2$<br>$\Rightarrow -\sqrt{2} \leq x \leq \sqrt{2}$<br>$[-\sqrt{2}, \sqrt{2}]$                                                                                               | $2 x -9 \geq 0 \Rightarrow 2 x  \geq 9 \Rightarrow  x  \geq \frac{9}{2}$<br>$\Rightarrow x \geq \frac{9}{2}, x \leq -\frac{9}{2}$<br>$\Rightarrow (-\infty, -\frac{9}{2}] \cup [\frac{9}{2}, +\infty)$ | ٤                                                                                                                                 |                                                                                                                                                                  |   |
| الف) $3\sqrt{\frac{ x +1}{ x -3}} \Rightarrow  x  \neq 3 \Rightarrow x \neq 3, -3$<br>$(-\infty, -3) \cup (-3, 3) \cup (3, +\infty)$                                                                                                         | $3\sqrt{\frac{\sqrt{x}+1}{\sqrt{x}-3}} \Rightarrow \sqrt{x} > 3 \Rightarrow x > 9$<br>$\hookrightarrow \sqrt{x} \geq 0 \Rightarrow x \geq 0$<br>$\Rightarrow [0, 9) \cup (9, +\infty)$                 | ٧                                                                                                                                 |                                                                                                                                                                  |   |
| $2\cos x - 1 \neq 0$<br>$\Rightarrow 2\cos x \neq 1 \Rightarrow \cos x \neq \frac{1}{2}$<br>$\arccos \frac{1}{2} = 2k\pi \pm \frac{\pi}{3}$<br>$\Rightarrow D_f = \mathbb{R} - \{2k\pi \pm \frac{\pi}{3}\} \quad k \in \mathbb{Z}$           | $2\sin x + 1 \neq 0$<br>$\sin x + \frac{1}{2} \neq 0 \Rightarrow \sin x \neq -\frac{1}{2}$<br>$\Rightarrow D_f = \mathbb{R} - \left\{2k\pi + \frac{7\pi}{6}, 2k\pi - \frac{\pi}{6}\right\}$            | $\tan x \neq 0$<br>$\cot x \neq 0$<br>$\cot x \neq 1$<br>$D_f = \mathbb{R} - \left\{\frac{k\pi}{2}, k\pi + \frac{\pi}{4}\right\}$ | $2\sin^2 x \neq 2$<br>$\Rightarrow \sin^2 x \neq 1 \Rightarrow \sin x \neq \pm \frac{\sqrt{2}}{2}$<br>$D_f = \mathbb{R} - \left\{k\pi \pm \frac{\pi}{4}\right\}$ | ٨ |
| $\sqrt{2 x-2  - \frac{1}{x}} > 0 \Rightarrow 2 x-2  \geq \frac{1}{x} \Rightarrow  x-2  \geq \frac{1}{x} \begin{cases} x > \frac{9}{x} \\ x \leq \frac{1}{x} \end{cases}$<br>$\Rightarrow (-\infty, \frac{1}{x}) \cup (\frac{9}{x}, +\infty)$ |                                                                                                                                                                                                        |                                                                                                                                   | ٩                                                                                                                                                                |   |
| $4-2 x  \geq 0 \Rightarrow 4 \geq 2 x  \Rightarrow 2 \geq  x $<br>$\Rightarrow -2 \leq x \leq 2 \Rightarrow [-2, 2]$                                                                                                                         | $\frac{ x }{ x } \geq 0,  x  \neq 0$<br>$\Rightarrow D_f = \mathbb{R} - \{0\} \cup (-\infty, 0) \cup (0, +\infty)$                                                                                     |                                                                                                                                   | ١٠                                                                                                                                                               |   |